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SUMMARY OF FOREST PEST CONDITIONS IN MICHIGAN IN 1966

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The JACK PINE BUDWORM defoliated jack pine over the greatest area in Michigan in recent years. Jack pine throughout the northern part of Lower Michigan was heavily defoliated as well as areas in Upper Peninsula near Raco in Chippewa County, north of Gwinn in Marquette County, and on the Baraga plains in Baraga County. There has been some tree mortality in the more severely hit areas, although most of the trees are expected to survive. The drought conditions during 1965 and 1966 no doubt will have a considerable influence on the trees and will add to the tree mortality.

In Lower Michigan, heavy defoliation of jack pine stands occurred in western Presque Isle, southern Cheboygan, eastern Otsego, western Montmorency, Oscoda, Crawford, Kalkaska, eastern Grand Traverse, eastern Missaukee, Roscommon, northern Ogemaw, northern Clare, and Lake counties. In some sections of northern Lower Michigan, stands heavily defoliated about four years ago were again attacked in 1966. The trees have generally not recovered from the current outbreak defoliation as they have in previous ones.

A survey of state pine plantations in the Upper Peninsula for SCLERODERRIS PINE CANKER revealed that most of the plantations under ten years of age are infected with Scleroderris pine canker. All gradations of damage were found, from plantations with only a few branches killed to others with almost complete mortality of the red pine. The heaviest damage was in the frosty snow belt area of the north half of the Upper Peninsula, and particularly on large open pine plains and in depressions.

In Lower Michigan, Scleroderris has been found in Otsego, Crawford, Kalkaska, and Antrim counties, on similar sites as in the Upper Peninsula.

The FRUIT TREE LEAF ROLLER was again in outbreak numbers on oak in Lower Michigan, particularly in southwestern Montmorency and northwestern Oscoda counties. Other areas of noticeable defoliation were in southwestern Alpena, northern Ogemaw, southeastern Missaukee, Crawford, southeastern Grand Traverse and southeastern Otsego counties. The only previous outbreak on record in Michigan where large areas of oak were defoliated was in 1956 and 1957. During the present outbreak, smaller trees were almost completely defoliated while the lower portions of the crown of the larger trees was most heavily defoliated. Normally, it is not expected that defoliation by this pest would cause much permanent damage to the oak. However, when coupled with drought conditions, frost, or other agents that weaken the trees, tree mortality may occur as happened in 1958.

Caterpillars of the FOREST TENT CATERPILLAR were reported to be quite common in the northwestern part of Lower Michigan from Wexford County northward. However, no appreciable defoliation was noted except on the Jordan River State Forest.

Damage from the EUROPEAN PINE SHOOT MOTH remained at a low level in Lower Michigan, with most areas reporting only low populations. Of interest was an infestation of the shoot moth found on the Kingston Plains area of northern Alger County. This is one of the colder, frostier parts of Michigan and therefore, not an area where the shoot moth would be expected to exist and cause damage. However, it is also an area of deep snow and this insulates the lower branches so the shoot moth can persist.

Severe defoliation of jack pine by the JACK PINE SAWFLY occurred in Luce County in townships T46N, R9W; T47N, R9W; T47N,R10W;T48N, R11W; and T49N, R10W. Throughout much of this area the jack pine is on sandy ridges between swamps. Almost all of the old needles on many of the trees were eaten. This is the second year of defoliation in parts of the area. It is expected that the trees will survive unless defoliation by the jack pine budworm should occur on the same trees.

Defoliation by the jack pine sawfly also took place in many other parts of the state although the infestations were much more restricted in size. In Roscommon County understory jack pine were partially defoliated and jack pine planted in a borrow pit in southwestern Roscommon County had about 20 percent of the three foot high trees completely defoliated of old needles.

Two infestations of the RED-HEADED PINE SAWFLY that we have been watching on state land showed opposite reactions this summer. One, in Wexford County on 2-5 foot red pine, had over 25 percent of the trees with eggs in June. However, the eggs failed to hatch, or the few that did hatch failed to survive. It is assumed that the drought and high temperature conditions that prevailed during June were the main factors in the egg or small larval mortality. Sawflies on nearby larger jack pine survived.

The second infestation, in Mackinac County on 15 foot red pine continued this year and the larvae were the biggest and healthiest I have ever seen. In the 80 acre infestation, 20 percent of the trees were defoliated to some extent, however, less than one percent of the trees were actually damaged to the extent that some deformity might take place.

Elsewhere, throughout the northern part of the state small infestations of this sawfly could be found. At the present time, however, there isn't any signs of a widespread outbreak building up.

Other sawflies were common in the Upper Peninsula during July and early August. Jack pine windbreaks and 5-10 foot plantations in northern Alger County were stripped of the old needles by Neodiprion rugifrons. Defoliation by this sawfly and N. maurus was also evident in Marquette

County. Sawflies of many species were found on pine this summer and from all reports, with the exception of the red-headed pine sawfly, pine sawflies were the most abundant they have been for at least ten years.

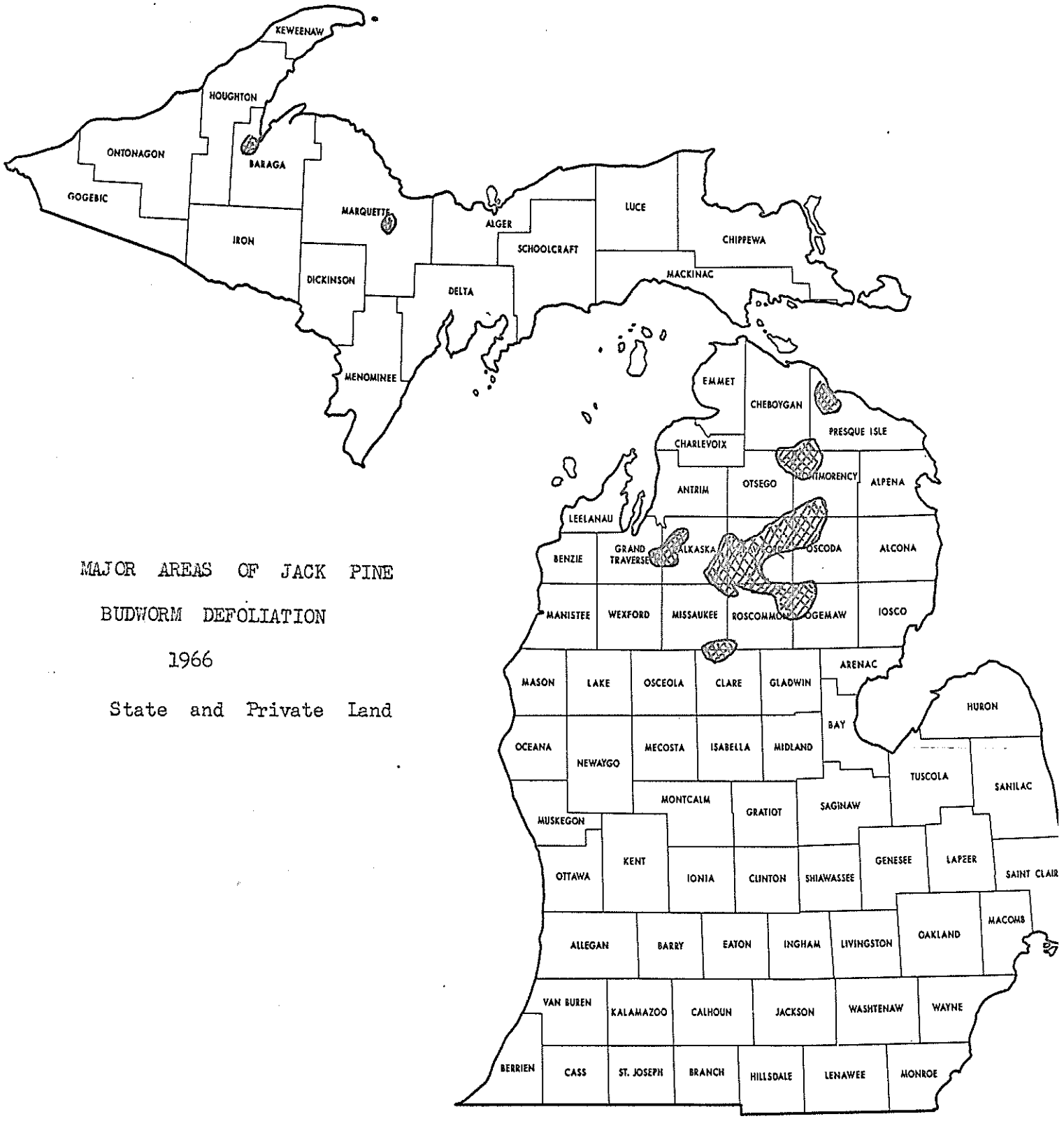
The number of plantations known to be infected with Fomes annosus is six, the same as in 1965. Two of these are in Washtenaw County, two in Jackson County, one in Oakland County, and one in Kalamazoo County. Even though these have only been known to be annosus infections for two years, the disease has been present and began to kill some of the trees over 15 years ago. In most of the infection centers, the disease is gradually killing pine around the perimeter of the infections.

The DUTCH ELM DISEASE continues to cause widespread devastation of elm trees as it gradually spreads northward. At the present time it is found throughout Lower Michigan, and in Marquette and Menominee counties in the Upper Peninsula.

Many other pests continued to cause defoliation, deformity or tree mortality during 1966. In northwestern Lower Michigan, pine plantations, particularly Scotch pine, were attacked by the pine root collar weevil and many trees were killed. The white pine weevil caused deformity of white, jack, Scotch and red pines. This pest seems to remain at a fairly constant level, although it is reported to be declining in the southern part of Lower Michigan. Defoliation by the larch sawfly was quite varied with some stands almost untouched while neighboring stands were almost completely defoliated. In general, however it is considerably less than during the peak years in the late 1950's. The Saratoga spittlebug caused some flagging and tree mortality in Menominee and Dickinson counties. Grasshoppers defoliated a few oak in Lake County. The eastern tent caterpillar was common on wild cherry. Fall webworms were abundant on hardwoods in southern Lower Michigan.

A considerable amount of oak died in Lake County during the summer. This was evident on the poorer sites where the oak was mixed with jack pine. The reason for the mortality is not yet known, but presumed that the heat and drought during the early summer was a major contributing cause.

Elsewhere in the northern part of the state, there were considerable losses of red and white pines, and spruce plantations due to the prolonged drought in June and early July.



MAJOR AREAS OF JACK PINE

BUDWORM DEFOLIATION

1966

State and Private Land